

Electronic Supplementary Information

Magnetic nanoparticles/PEDOT:PSS composite hole-injection layer for efficient organic light-emitting diodes

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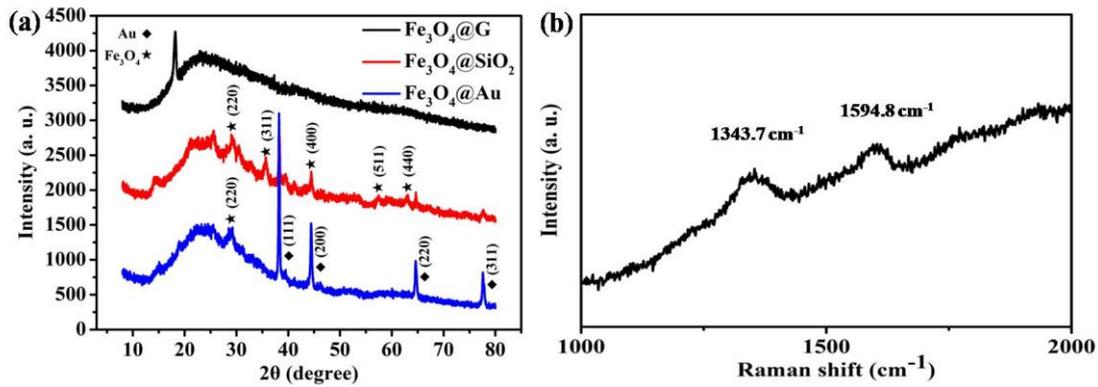


Figure S1. (a) XRD spectra of as-synthesized $\text{Fe}_3\text{O}_4@\text{G}$, $\text{Fe}_3\text{O}_4@\text{SiO}_2$ and $\text{Fe}_3\text{O}_4@\text{Au}$ NPs; (b) Raman spectrum of $\text{Fe}_3\text{O}_4@\text{G}$ NPs.

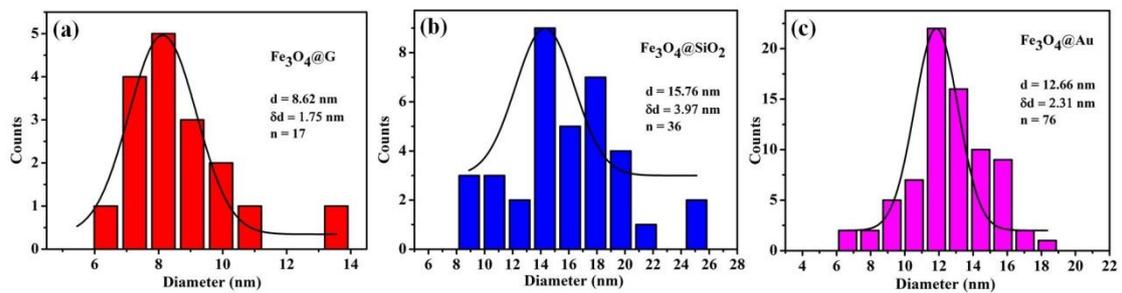


Figure S2. Size distributions of as-prepared (a) $\text{Fe}_3\text{O}_4@\text{G}$ NPs, (b) $\text{Fe}_3\text{O}_4@\text{SiO}_2$ NPs and (c) $\text{Fe}_3\text{O}_4@\text{Au}$ NPs, obtained from the TEM images shown in Figure 1a-1c.

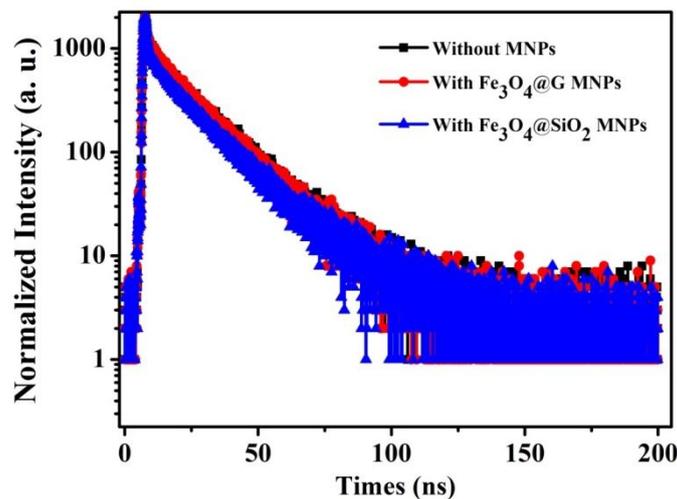


Figure S3. Time-resolved PL (TRPL) spectra measured for the PEDOT:PSS/ Alq_3 thin films deposited on quartz glasses with and without the presence of $\text{Fe}_3\text{O}_4@\text{G}$ and $\text{Fe}_3\text{O}_4@\text{SiO}_2$ MNPs.